

The Honorable Julius Genachowski
Chairman
U.S. Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Subject: **IB Docket Number 11-109.** FCC File No. SAT-Mod-20101118-00239, LightSquared
Subsidiary LLC (LightSquared) Request for Modification of its Authority for an Ancillary Terrestrial
Component

Dear Chairman Genachowski:

I am Professor Richard S. Stansbury from Embry-Riddle Aeronautical University in Daytona Beach, FL. I teach and do research in the Department of Electrical, Computer, Software, and Systems Engineering (ECSSE). My research focuses on autonomous systems such as unmanned aircraft and unmanned ground vehicle. I also support research funded by the FAA and other agencies involving technologies to support the Next Generation Air Transportation System (NextGen) such as Automatic Dependent Surveillance – Broadcast (ADS-B). All of my research involves the use of GPS in some form or another to either safely guide unmanned systems, or provide support to make manned aviation safe.

As a member of the unmanned systems community, I am deeply concerned about a current waiver request from LightSquared to operate high-powered terrestrial transmitters on a radio frequency adjacent to the weak satellite-based Global Positioning System (GPS). Independent studies show that LightSquared's terrestrial operations could completely knockout GPS receivers for miles around each transmitter.

Before the Federal Communications Commission grants LightSquared waiver to build tens of thousands of high-powered terrestrial transmitters and use a radio frequency adjacent to GPS, more research and studies must be done.

As you know, all around the world, unmanned systems (air, ground, and maritime) rely on accurate, dependable GPS signals. The lack of a reliable GPS signal poses a serious threat to our public safety and national defense, and the potential expense of retrofitting or replacing affected GPS receivers would truly be an undue burden.

I ask that you take careful consideration of the potential harm LightSquared's proposed plan would have on the emerging field of unmanned systems, not to mention all other users of GPS. Thank you for the opportunity to submit comments for the official record.

Sincerely,

Richard S. Stansbury, PhD
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Embry-Riddle Aeronautical University
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